

GUIDING PRINCIPLES

Design Guidelines and Imperatives
21st Century High School Design



Contents

The Granite School District has created guiding principles for the development of its new 21st century high schools. These guiding principles have been established by the district to share its vision and expectations with all development stakeholders.

Through a series of project development workshops, school district administrators in concert with project managers and the architectural design team, have expanded upon the guiding principles and created project specific guidelines and imperatives.

The guidelines and imperatives presented here will assist and support in the collaborative effort of discovery and design, leading to the development of new 21st century high school facilities.



FLEXIBLE BUILDING DESIGN **A**

FLEXIBILITY IN SCHEDULE **B**

FLEXIBILITY IN THE DELIVERY OF EDUCATION **C**

FLEXIBILITY OF SOCIALIZATION **D**

FLEXIBILITY OF COMMUNITY **E**

A.01 Easy to configure (dismountable) interior wall systems will be employed where program requirements define and support the need for functional change and flexibility.

Imperative

Changes in the way students learn, and the opportunities technology will offer teachers in delivery and presentation will impact traditional classroom size and functionality. Being able to easily change the size and shape of various learning studios will better support the effective functionality and life of a new school building.

This unique challenge will impact the way mechanical and electrical building systems are designed. In order to support the desired flexibility in classroom size and functionality, these systems must offer more flexibility to change.



A.02 The use of steel frame construction as the building structure will better support and accomodate potential functional change during the life of the school building.

Guideline

It is anticipated that the new high school building will be designed for at least a 60 year life expectancy. During that period of time, the effective delivery of education will require that major functional change to use patterns be accomodated. The flexibility of steel framing will best allow for and support future change. This guideline is similar to Imperative C.05.



A.03 Consideration will be given to centralize CTE programs where determined practicable. This will help avoid costly duplication on multiple school sites.

Guideline

CTE programs play an integral role in a student's educational development. The unique functional aspects of lab space to support CTE learning can be very expensive to fully equip. The concept of centralizing CTE functions and activity will support improved development and use of these facilities. Also, the rapid change in equipment due to advances in technology, is better addressed by a centralized approach that will help control expense, and better accommodate the acquisition of costly supporting equipment.



A.04 The number of traditional individual student lockers will be limited, and provided on a strategic basis determined in the programming phase.

Imperative

During the last 5-10 years there has been a dramatic decrease in the use of individual student lockers. With the increased use of individual smart (technology) devices, and the gradual decreased use of standard text books, the need for use of a personal locker has decreased. Providing for a small number (maybe 300-500) of lockers to be strategically used by students when required will be considered.



A.05 Traditional hallway circulation space will be captured and enhanced to better support student self-directed study and collaboration.

Imperative

Hallway or corridor space is required to support circulation through large educational facilities. Traditionally that space has only been used to support circulation, but, with minor functional changes to the space it can be used to enhance learning by supporting “break-out” activity. By widening the typical hallway and enhancing finishes within the space, student collaboration outside the classroom offers strengthened learning opportunities. It is important to carefully evaluate furniture that will be used in these new “break-out” zones. Flexibility and ease of re-configuring layout is critical.



A.06 Staircases will be designed to support socialization, collaboration and visual control.

Guideline

Traditionally staircases have been designed to support just the functional activity of building circulation up and down within the facility. But staircases within an educational environment can offer so much more. Staircases can act as major intersections of student interface and exchange. When open and transparent they can serve to enliven and strengthen interaction. Through minor functional change they can accommodate seating and socialization. Staircases can become another “breakout” space where learning can take place. The finished surface on learning stairs can be important to their success, comfort, durability and ease of maintenance should all be considered. Also, lighting levels that support learning tasks will need to be provided.



A.07 Specialized learning studios supporting science curriculum, CTE programs or unique “maker” spaces will offer flexibility to change in size, character and functionality.

Imperative

In the past, design solutions for specialized studios usually included bringing necessary utility support in under concrete floor slabs. This allowed for direct delivery to the desk or lab table with no interference, but severely limited future flexibility. The proposed approach to flexible space and ease in change of functional use will require that utility service not be buried in floor slabs, but delivered in walls, raised floors or overhead ceiling spaces. The availability of newer equipment designed to deliver utilities overhead to the lab or work surface is good and will help facilitate future need for change.



A.08 Consideration will be given to incorporating more flexibility into administrative space and offices within the school building.

Guideline

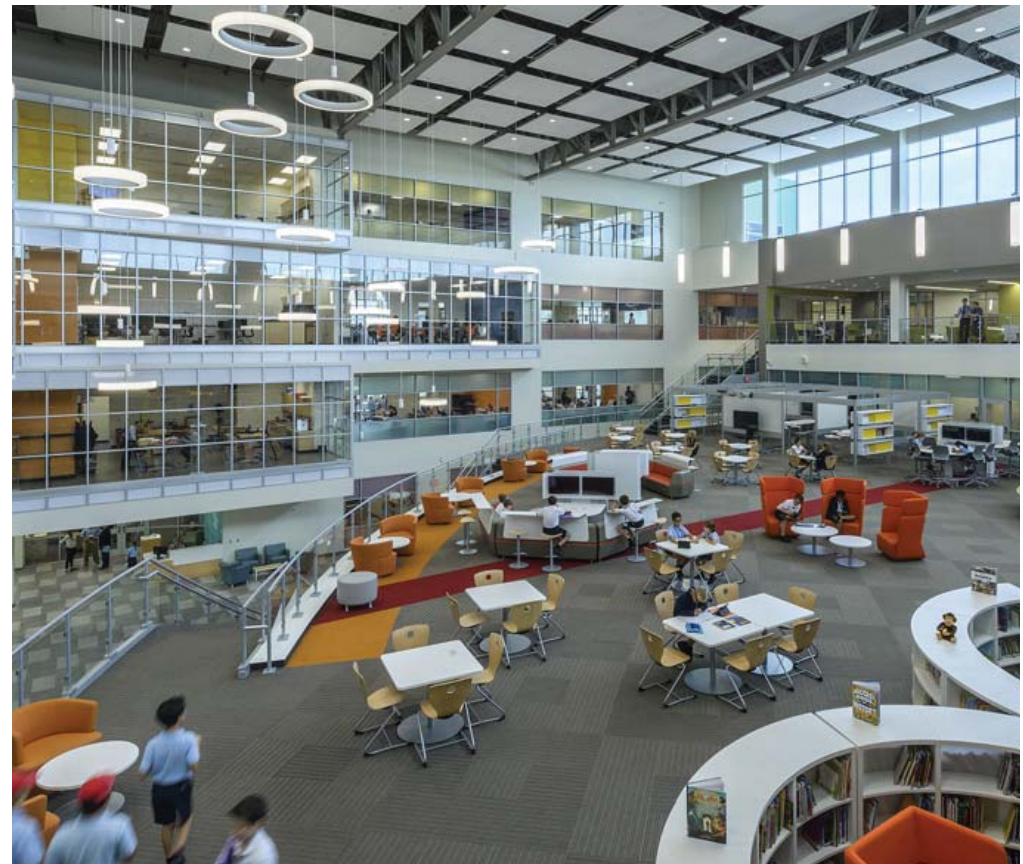
The functional aspects of administrative office space within the school building have traditionally been quite rigid. The location has been centralized near the main entry. It is important that some administrative functions be located at the main entry and functionally coordinated with main entry doors to create a secure, safe and controlled entry point. Consideration will be given to a more flexible office suite where administrators could locate in various office spaces throughout the building and change with the functional requirements that may occur or change over time throughout the building.



A.09 Interior artificial lighting systems will be LED based and offer significant flexibility in control. A programmable control system will also integrate the operation of window shades and LED classroom lighting.

Guideline

LED based lighting systems offer savings in energy consumption. Not only do they consume less energy, but because of very limited heat output, mechanical systems can be reduced in size. Significant advances have been made in fixture housings and light delivery, offering an enhanced glare free environment. They dim very easily and the programmable controls offered can integrate well with window coverings. Lighting layouts within learning studios will need to allow flexibility in layout as studios might adjust in size and functionality.



A.10 Exterior landscape will support the educational environment, serve as a teaching tool and reflect principals of conservation and sustainability.

Guideline

The exterior landscape should be thought of as another opportunity to teach, and should support casual outdoor student collaboration and comfort.

Careful consideration should be given to the work and cost of landscape maintenance, and also the context of the surrounding community. District maintenance operations should be consulted with respect to the plant types and watering system they are best capable of operating and maintaining.



A.11 The interior building environment will be supported by HVAC systems offering individualized control, economy of operation, and serve as teaching tools where practicable.

Imperative

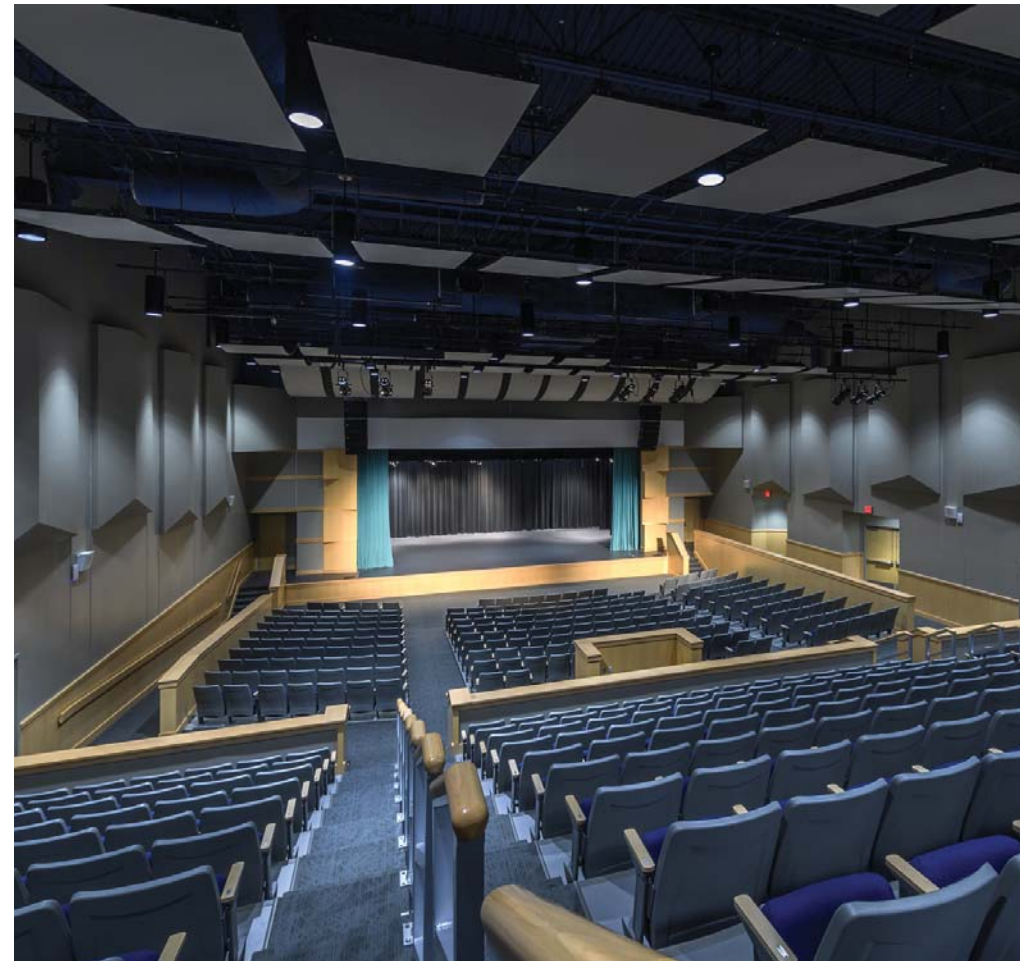
During the design and engineering process, multiple HVAC systems should be considered and evaluated for application. Offering teachers within a given learning studio or lab individualized HVAC control should be considered a high priority. Although LEED certification will not be required, the economy of operation and energy efficiency is very important. Traditionally, mechanical and plumbing system components are hidden behind wall and ceiling surfaces. Where practicable system components can be exposed and serve as teaching tools, highlighting building system operation to teachers and students.



A.12 Program development will be comprehensive in nature and include all academic, artistic and athletic curriculum requirements (based on a “sister schools” approach).

Imperative

This guideline refers specifically to the programming phase of design work. It requires that the written program be fully comprehensive and accurately define all functional space to be incorporated into the design. The program should also define the net square footage required for functionality and highlight critical adjacencies. An important goal in the development of these new high school facilities is the design concept of “sister schools”. Meaning that except for minor differences in student population requirements, the base building program will be the same for both facilities.



A.13 Space development supporting the teaching staff will be communal and collaborative in nature, will be visible, accessible, and offer access to work rooms, toilets and technology.

- Private teacher offices will be limited.
- Group spaces for conferencing & professional development will be developed.
- Personal space will be provided.

Imperative

Building development will not provide teachers with classroom space that will serve as a permanent home base. Teachers will “float” through learning studios (classrooms) based on factors such as; schedule, size of space, class size and functionality requirements. A landing or “home base” will be provided but will be communal in nature and serve to strengthen teacher collaboration. These teacher collaboration spaces will be easily accessible to teachers, generally visible yet secure. They will offer access to work rooms, technology support, toilet rooms and personal/private space when needed. Group space for conferencing and professional development will also be available.



A.14 Raised access floor systems will be considered where required to support flexibility of use, electrical/data distribution and need for future change.

Guideline

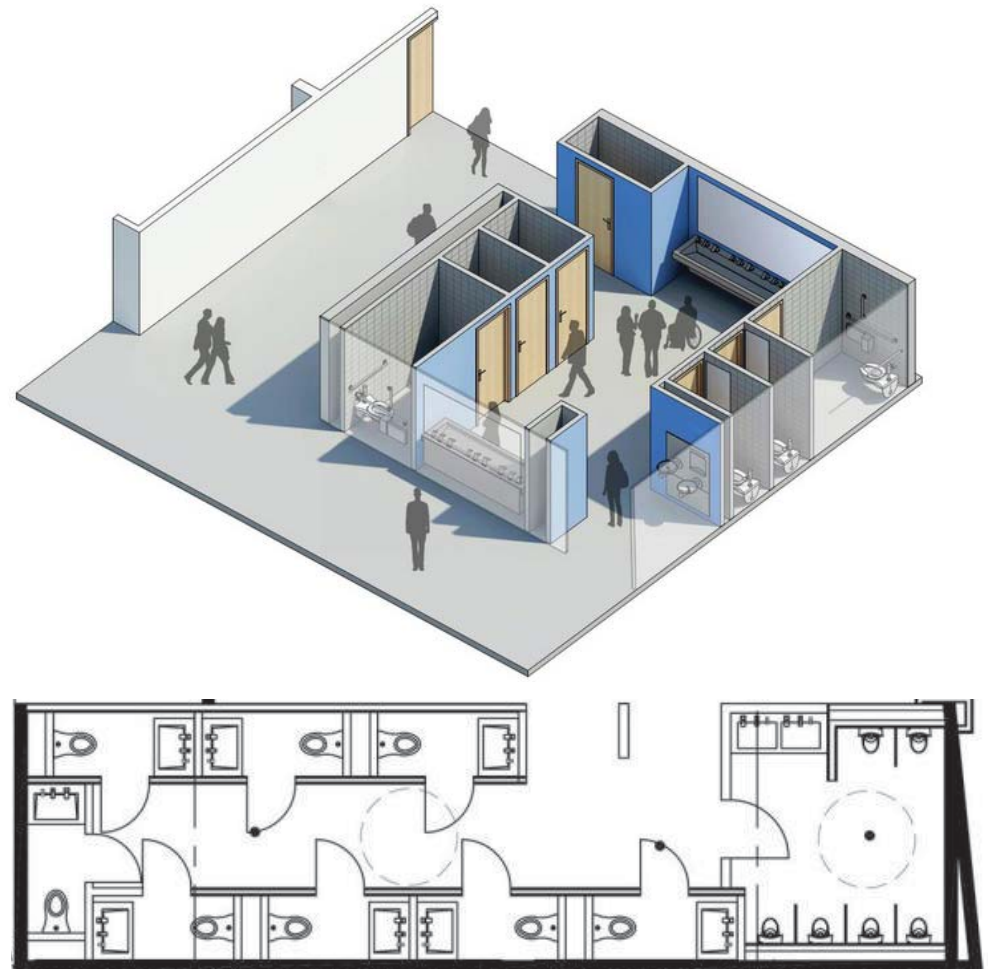
Raised access floor systems can offer tremendous flexibility when it comes to supporting electrical and data distribution in a learning lab or studio. Due to the cost of raised floor systems, the need for functional flexibility must be carefully evaluated, and other less costly approaches considered. An integral part of a successful raised floor system is the selection of a finished floor material to be applied to the moveable floor panels. Understanding future functional needs of the space will better drive the decision to implement a raised access floor system.



A.15 Program requirements outlining restroom development will reflect the current demands of social need and best practices for student and faculty use.

Imperative

Recent changes and development of social norms surrounding use patterns of public restroom facilities demands a thorough evaluation of best practices in designing these support services. In approaching use patterns that will address the needs at hand, consideration will be given to separate student, teacher/administrator and public use. Basic building code requirements must also be fully met as design and development proceed.



A.16 Food service development will offer the functional support and customized menu required by a more flexible and extended schedule of operation.

Imperative

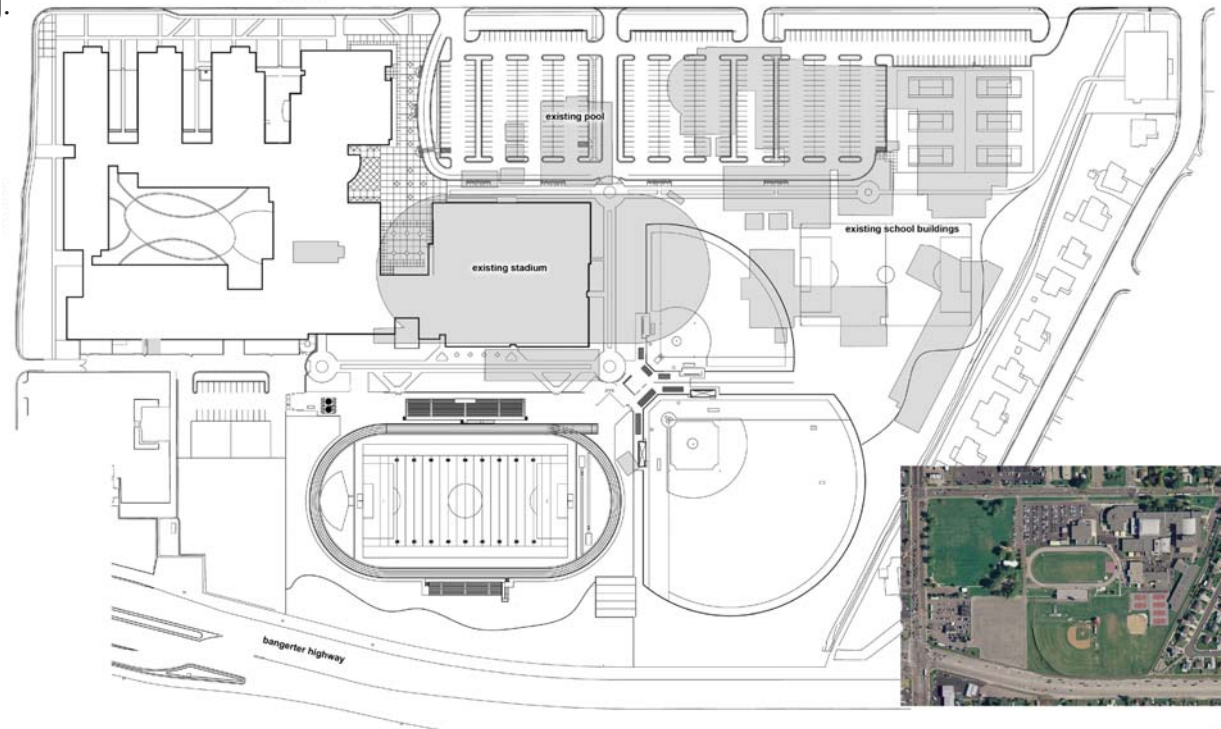
The development of food service facilities in school buildings traditionally has been based on a very regular schedule and familiar menu service. Flexible building design, schedule and education delivery will place unique demands on traditional food service operations. The concepts of flexibility will require evaluating the impact of new dining schedules and the capacity of equipment to meet the demands of new and changing dining schedules. Food service equipment and personnel will need to be prepared to meet the demands of a more customized menu offering and a studentbody using food service operations in a flexible manner throughout the day.



A.17 The separate functional aspects of parking, student drop off and bus service will be developed with safe separation of use and functionality.

Guideline

Site development can present tremendous challenges, especially on a replacement site where existing academic activity must remain functioning while a new school facility is constructed on the same site. The functional aspects of student and faculty parking, student drop off, walking students and bus service must be separated functionally and allow for safe ongoing daily activity. During recent years, student drivers have increased and necessitates evaluation of what future years will bring.



A.18 Limit building entrance points and develop controlled and secure entrance at those locations.

Imperative

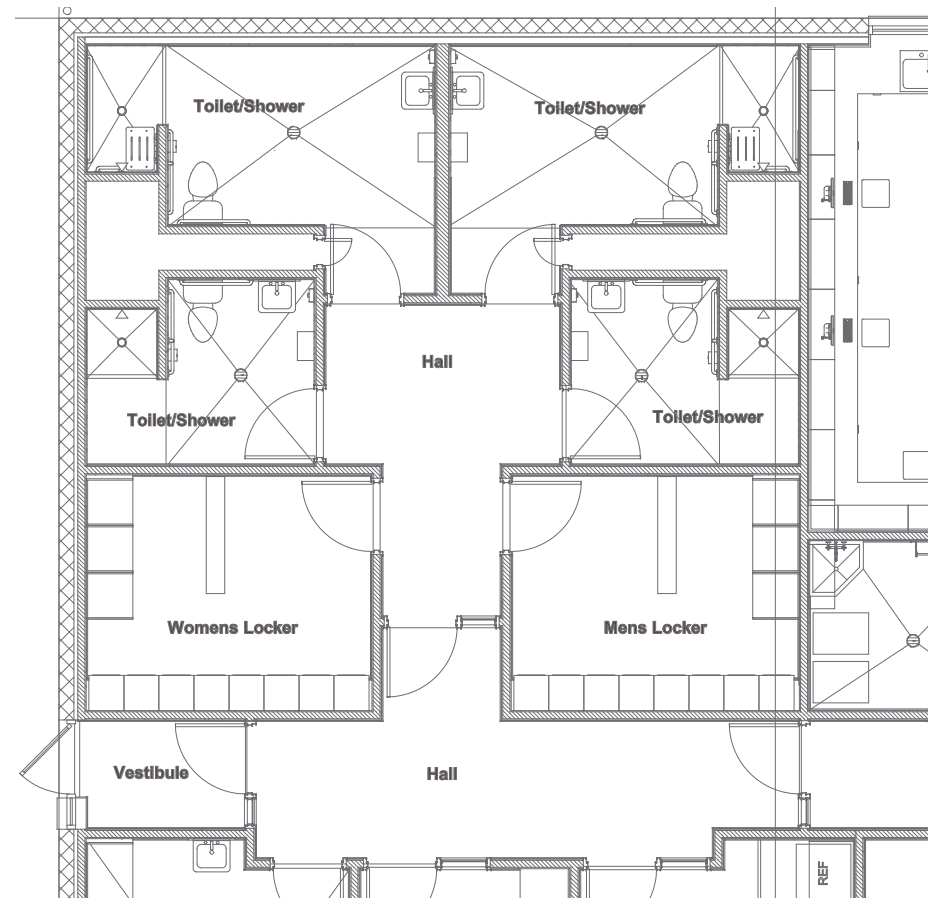
In recent years the need to focus on a safe and secure high school campus has become a serious point of development. Due to the large range of high school activity, a typical campus layout will include many points of entry and egress. A critical part of developing the functional layout will include limiting points of entry and monitoring all points of entry and egress. Through electronic surveillance systems, door status can be tracked and controlled and video documentation can support security forces.



A.19 Lockers, showers and dressing areas for students and staff will offer flexible, safe and individualized use patterns.

Imperative

Locker rooms, shower and dressing areas for students, staff and administration will offer flexible, safe and individualized use. Not unlike the challenges associated with restroom design, social norms now require that the functional aspects of dressing and shower rooms offer a safe and more private individualized use pattern than traditionally provided. Design activity will also consider the need for gender neutral or all gender facilities. Facilities to accommodate visiting teams will also be developed.



A.20 All aspects of design and development will reflect principles of lean and economical building standards. They will also be based in sustainable practices with ease of maintenance and operation at the forefront.

Imperative

The design and development of these projects will incorporate principles of lean and economical building standards. Design decisions will be based in sustainable practices with consideration given to ease of maintenance and operation.

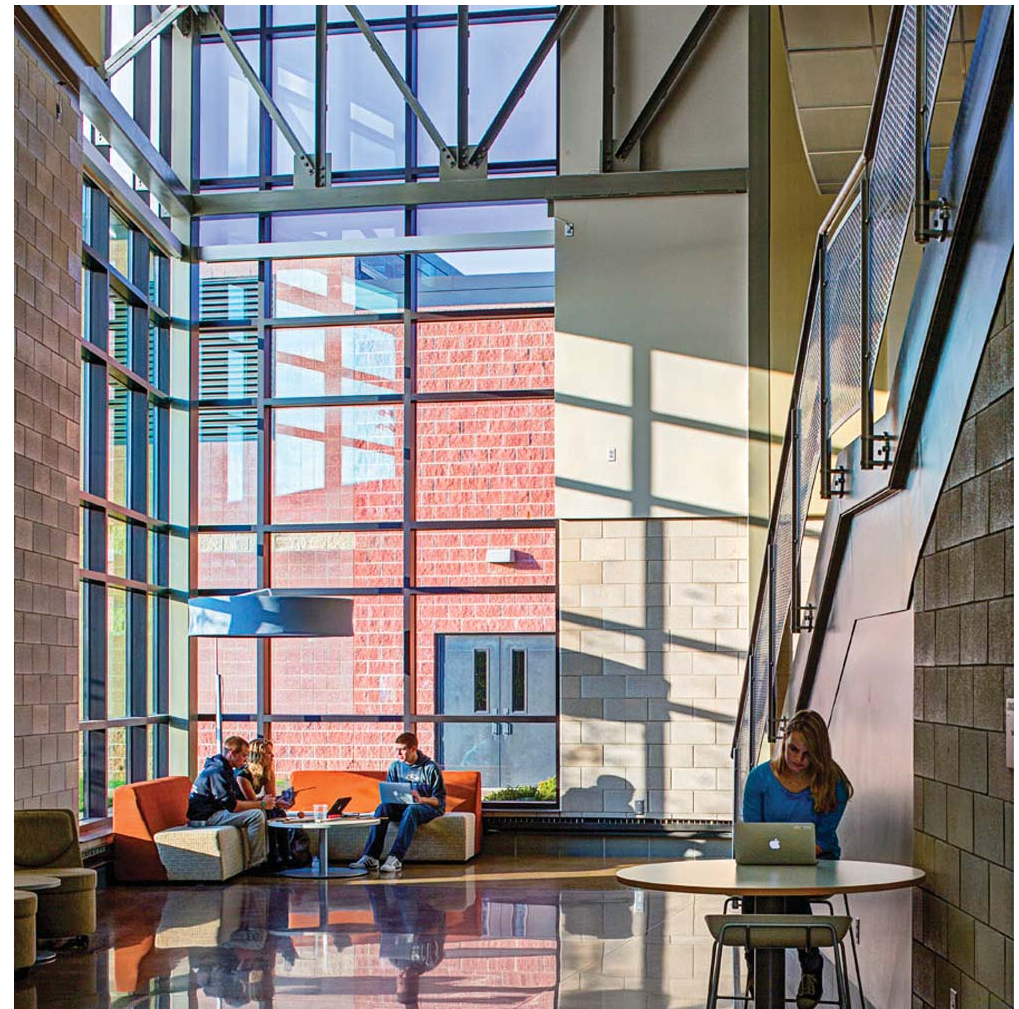
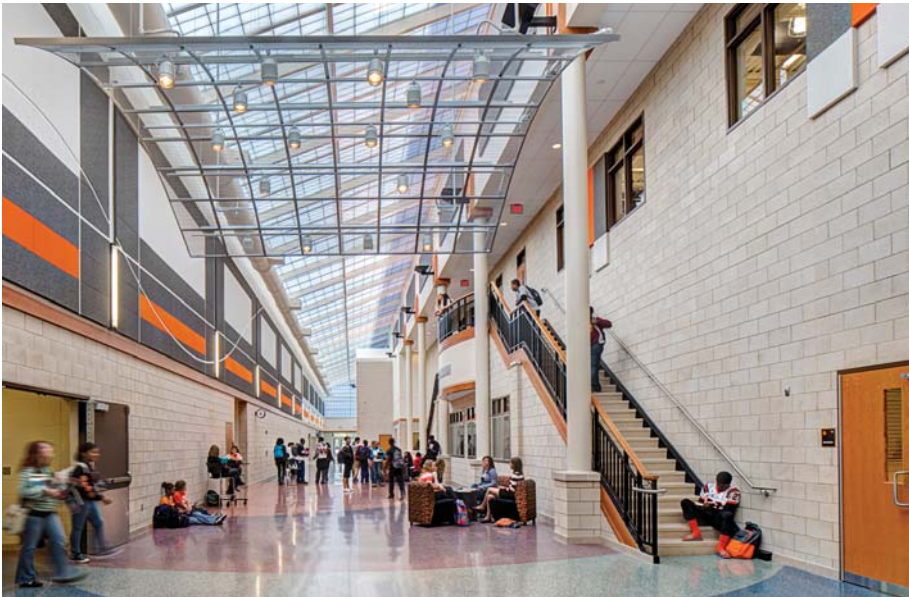
Based on established budgets, and a rapidly escalating construction cost index in the state of Utah, lean and economical building standards will be used in the design and development of these projects. Design concepts will offer multiple solutions where valued based decisions can be made. Life cycle costing of major building systems and materials will weight first cost investment against the life cycle costs of various acceptable solutions, offering the District choice as the design work moves forward.



A.21 The use of natural daylight and building transparency will be incorporated into all usable space where practicable.

Imperative

The proven benefits of natural daylight in the learning studio has been well documented. Design development on these projects will reflect the goal of bringing daylight into all interior learning studios where practicable. The control of natural light is critical. Both external shading devices and interior shading systems should be evaluated for their abilities to deliver comfort and control. The desired outcome of more interior building transparency through the used of glass products, will enliven interior spaces, heighten security and strengthen collaboration based activity.



A.22 All teaching stations, learning studios and collaborative space will offer abundant writing surfaces.

Imperative

An important aspect of 21st Century learning is the opportunity offered students to break out of the traditional and more rigid classroom setting. When students can easily gather to collaborate in various sized groupings and in comfortable learning environments they will better engage and learn. Offering abundant writing surfaces in all learning studios and break out collaboration zones where practicable will support study and learning outcomes.



A.23 The functional building layout should enhance visual control of student activity and limit blind corners, hidden corners and out of the way gathering spaces.

Imperative

It certainly appears obvious that limiting blind corners, hidden corners and out of the way gathering spaces will enhance administration and control of unwanted student activity. But there is a tremendous challenge in developing simple and direct functional building layouts without introducing a variety of blind and hidden corners. Building layout should always work to enhance and support visual control of student activity, and limit hidden or out of the way gathering places. The more extensive use of glass in developing transparency will support desired visual control of student learning.



B.01 The school building systems will accommodate extended days and hours of operation and support year round use.

Imperative

The new home for Skyline and Cyprus High Schools will be a catalyst to new, innovative learning styles on the Granite School District campus.

Each new facility will be an active academic center, yet they will also be about educational choice. The atmosphere will be fluid, with the entire community environment working as a learning center. Large and small spaces will support the various needs of the students and the community. This will include extended days and hours for seasonal events and evening classes. Support areas, such as available food service, tech support and building staff will be provided. It is the goal of the design group to strategically take advantage of these new buildings to help offer more options for students, families and the broader communities.



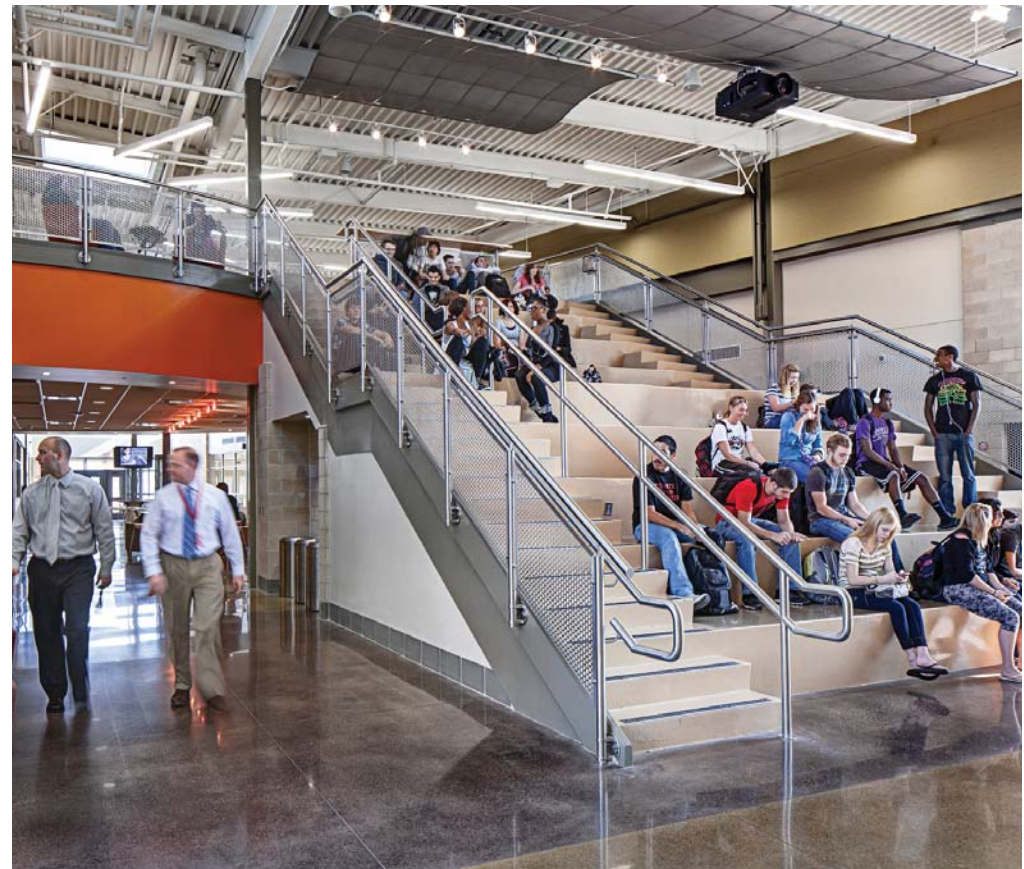
B.02 Consideration will be given to vertical development, supporting convenience of time required for class rotation, and support ease of circulation throughout the building.

Guideline

A challenge with large high school student populations is the efficient movement between classes and daily activities. This can be intimidating for students and staff alike when the bell sounds and a mass of humanity spills out into the halls. For these high schools, several design strategies will be implemented to lighten the traffic rush. It is anticipated that each high school will have a multi-floor classroom building. With a well-designed system of monumental stairways, exit stairs and elevators, the compact footprint of the building is also a time saver in travel distance.

Equally effective is limiting the use of double loaded corridors, and opening up the connections between major traffic pathways. Smoother flow is possible at intersections when blind corners are minimized by allowing longer and wider view angles that utilize interior windows and transparency.

The elimination of traditional hallway lockers is an equally effective strategy to eliminate traffic bottlenecks. Student storage can be accommodated in a classroom neighborhood, or in primary public space near the center of the school.



B.03 Program activity and development will reflect the unique aspects of special needs students.

Imperative

It is essential to integrate the discussion of general academic spaces with the vision for addressing special needs students, the location of these unique facilities, the types of needs being addressed within the new facility and the equipment needed within each space to provide state-of-the-art learning environments for special needs students.

Access to these facilities from the building exterior and transportation types must be carefully analyzed to allow direct access from the exterior where possible, and clearly-identified circulation routes within the building must be established.

A sensitivity to building systems such as door hardware, plumbing fixtures, lighting control, temperature control, floor finishes, and wall materials must be thoroughly discussed with the special education teaching staff. Furniture and equipment needs are critical to creating a comfortable environment and must be discussed and understood by the providers.



B.04 Program development will reflect a broad base of learning opportunity; self-directed, collaborative small and large groups and flexible, any time break out spaces.

Imperative

The facility will address many learning styles and various types of content delivery from the outset. It is also necessary to embrace the change that occurs in education over the building's life, recognizing that spaces must be flexible and adaptable to group sizes .

In an enhanced learning community, small and large groups need space to be comfortably accommodated. One-on-one spaces should be provided to foster a more intimate discourse in subject matter, as well as to promote student-to-student connections and student-to-teacher connections.

Moveable furniture provides ease of reconfiguration and is a prerequisite to successfully addressing flexibility while accommodating human physical development and comfort. Research shows that human beings in the student age groups are more likely to need the ability to move and fidget in order to maintain focus, and require more movement as their bodies develop.



C.01 Develop flexibility within the classroom and make technology easily accessible to student and teacher.

Imperative

Technology and space are tools that should be specifically developed to support the pedagogy and users behaviors of active learning. We all learn by doing. Engagement is about learning, not just a transfer of knowledge. Going forward with designing these spaces, it is important to look at the physical environment, the infrastructure of utilities and the differing needs and behaviors of end users, and to be ready for change.

A few considerations when designing spaces to offer flexibility, efficacy and comfort include:

- Comfortable seating for long work sessions and worksurfaces that hold more than just a keyboard and monitor. Larger surfaces encourage 2-3 individuals to huddle up and work on items collectively.
- Multiple power outlets for portable technology – laptops, phones, multiple devices to help prevent students from unplugging other equipment to access power.
- Support individual, dyadic and team work, as well as spaces for instructor demonstration.
- Provide a range of choices for sitting and standing postures.



C.02 Where practicable, building technology and support systems will be exposed and serve as teaching tools.

Guideline

A new educational facility is a pipeline to the future for the students and the community. Every possible location in the building should provide anytime/anywhere learning, including the structure itself. A good design will provide views of systems and infrastructure that serve as teaching tools for instructors as well as students.

Mechanical systems, piping, and services, if properly labeled and color-coded, become learning tools for STEM and science programs. Electrical and technology systems can be used to illustrate how communication systems serve both the building and the learning within its walls.

Energy dashboards become learning centers for sustainability if properly located, and may also serve as a stimulus for student involvement in saving energy.

Every square foot of the building and the site can be used for learning and providing awareness of our environment and our future needs.

The design team will consider how every square foot in the facility might contribute to education. Site, building systems and architecture can be used to illustrate and complement science, technology, engineering and math (STEM) as well as the arts through architectural design, lighting and the use of color or materials. Functional spaces within the school that previously were not considered as more directly supporting education or learning will be examined and opportunities for learning or instruction identified.



C.03 During the expected life of the school facility, major functional change reflecting the delivery of education, must be accommodated on multiple occasions.

Imperative

The new high schools will be designed to allow a wide range of educational programs throughout their life expectancy. Each school will be designed as a family of interconnected pieces that will provide long-term flexibility in planning and building operation. Depending on the schedule, pieces of the school will be easy to close-off or remain open for extended hours. Additionally, this approach will allow the design to respond to the unique qualities of each site and neighborhood.

Internally, the hierarchy of the main spaces will be designed with the anticipation that the spaces they connect will change over time. The building services and more permanent pieces will always stay put, but the learning spaces around them may change substantially. This guideline is closely related to C 05.



C.04 Flexible teaching and learning environments will accommodate different teaching and learning methods.

Guideline

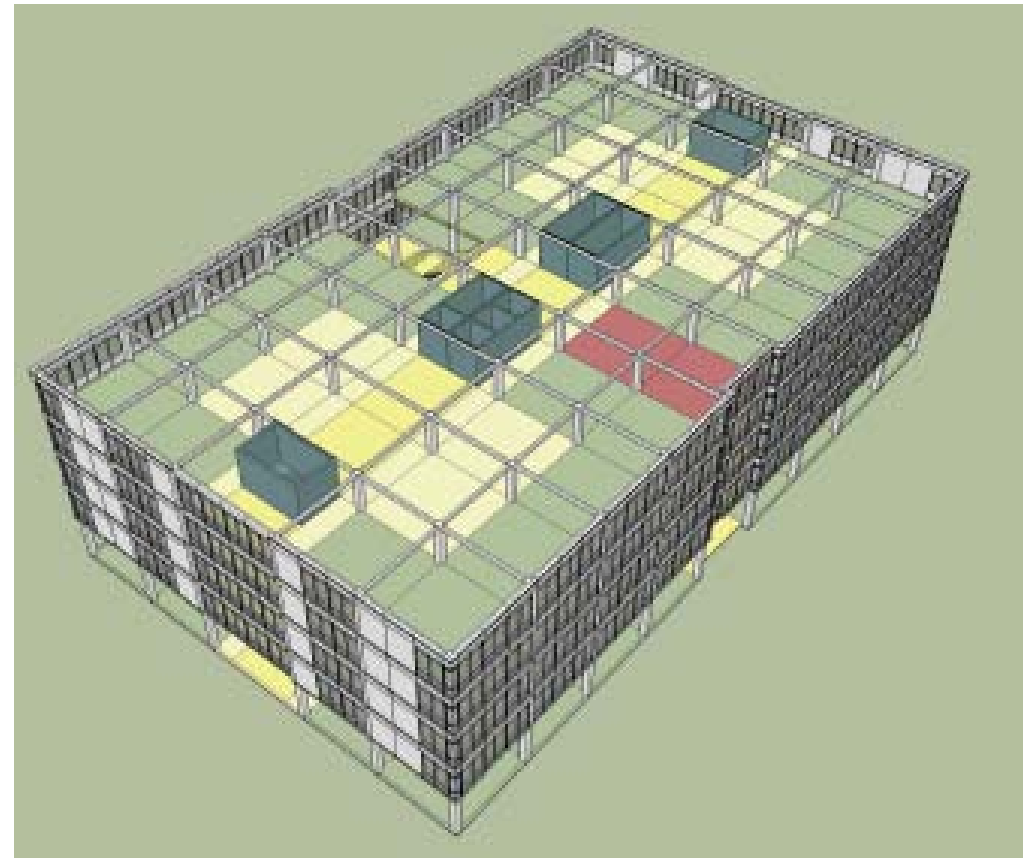
Students are individuals with unique learning requirements. To facilitate more effective, accelerated rates of learning, 21st Century education must respond to students' individual learning needs. Academic needs vary greatly, and students have varying skill and interest levels. Some students work best as individual learners, while others prefer one-on-one or group arrangements. Additionally, some students may benefit from atypical space layouts. The current model of one instructor to many students in a 900 square-foot classroom does not provide sufficient opportunities for customized education. The new high schools must include learning models that empower each student by optimizing learning potential through personalized, differentiated instruction.



C.05 Building design and construction should support educational program functions for the next 50-60 years.

Imperative

The overall plan will exhibit a clear and logical approach that will provide a strong backbone for future alterations or additions. A straightforward and regular steel structural grid will provide savings now and in the future. It will provide clarity during programming and offer the most flexibility as spaces in the building are rearranged. Building support systems will reinforce this approach by creating a durable service spine. The primary mechanical shafts, plumbing for restrooms and main circulation will be permanently established. Alternatively, this approach will allow the maximum freedom to plan the education spaces of today and tomorrow.



C.06 Hard wired computer labs will be limited, total building wireless connectivity will be delivered.

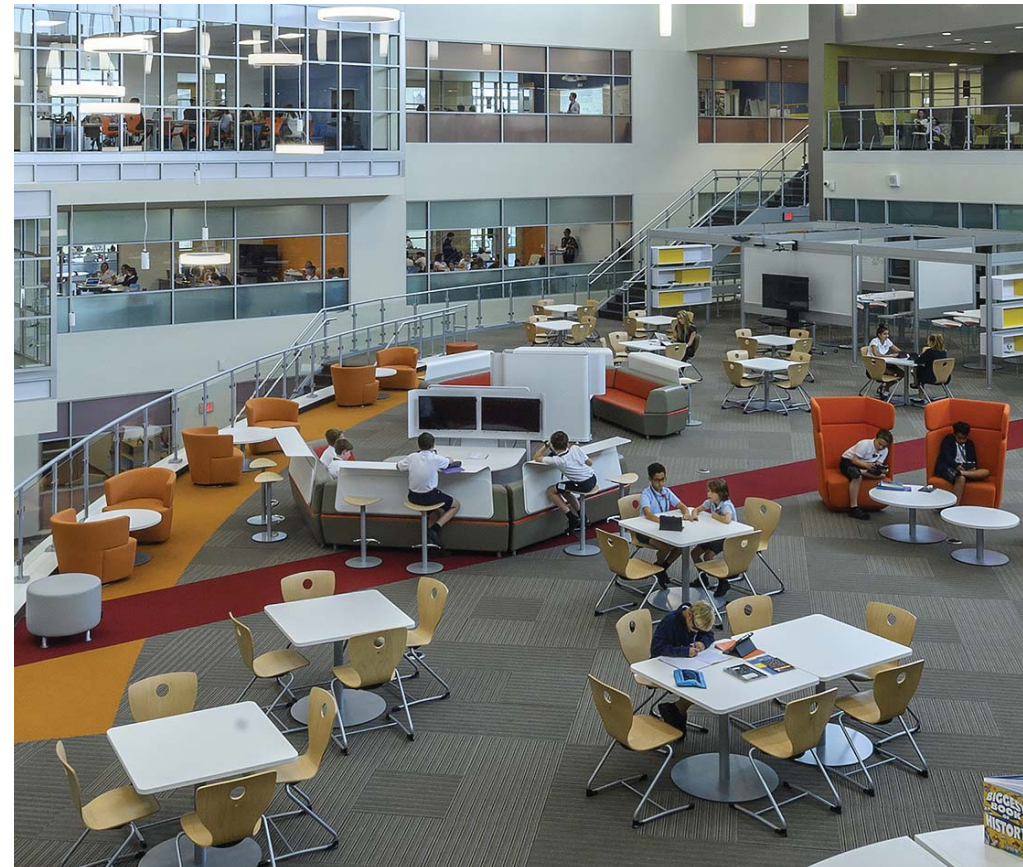
Imperative

As technology becomes smaller, more powerful and resident in the hands of students and teachers, the need for traditional computer labs is slowly diminishing.

As mobile power supply becomes more dependable, the need for hard-wired locations diminishes as well.

Every traditional computer lab is equivalent in size to 1 and ½ "classroom" spaces, so it is in the best interest of the District and the future to limit the traditional computer lab spaces to areas that require larger and more powerful machines, such as Graphic Labs and similar programs that require large-use computing software.

The identification of specific programs requiring large computing needs will be identified during the Programming Phase, and future technology-based solutions will be evaluated



C.07 The hard and fixed nature of CTE programs and their space requirements will be designed to offer more flexibility for change, over the life of the facility.

Imperative

As with the previous guideline, the spaces for CTE will be designed to allow for change. Each space will have a generous ceiling height, day lighting and visual connections to the exterior and interior. Each space will be finished in simple and durable materials.

There is an ongoing district discussion about which programs should be provided at each school and which ones should be provided from a central location. What is the best way to provide equal opportunities across the district? Which CTE programs are too unique or costly to be provided at an individual school? The direction of this discussion is vital to determine a direction in programming.



C.08 Building design will not limit access to technology and the changes that future development will bring.

Imperative

Today's students are digital natives and are very comfortable in a digital environment. Today's instructional staff are digitally-based as well. The building must support the use of technology in all communal, staff and learning spaces.

The furnishings must also be conducive to the use of technology, and the power supply design approach needs to reflect ubiquitous digital devices.

In a flexible room environment, the technology and power systems should be accessible from overhead or under-raised floor systems to support future cost-effective rearrangement of spaces.



C.09 Demountable walls and operable partitions will serve to make classrooms more flexible in size and functionality.

Imperative

A system of demountable and moveable walls will be used in the main teaching spaces of the school. They will be used to vary classroom sizes and to accommodate changing education requirements over time.

A full range of options is available for each type of wall, and a strategy will be developed to determine where they will provide the most impact and flexibility. Wall types that may be explored include traditional operable walls, overhead fold-up doors, pivot doors and sliding doors. Finished surfaces could be tackable, writable or magnetic, and display screens and vision panels could be incorporated into their design.

The approach to walls within the primary instructional spaces will have a significant impact on the quality and customization of education. Therefore, considerable time will be spent during design to create the optimal system for the high schools.



C.10 A specific focus on next generation science concepts will allow for a flexible approach to utility delivery to the individual science table.

Imperative

The Science Labs are spaces designed to support flexible dynamic scientific and technological exploration. These spaces should be designed to support a variety of learning strategies and educational applications. These spaces should be open and flexible, have access to utilities, good ventilation, and be equipped with durable surface materials. For high school use, there will be both Multipurpose Science Labs (Physics, Earth Science) and Chemistry/Biology Labs. Equipment and casework will be positioned for safety and efficiency. Some labs may have perimeter casework/sinks but mobile lab tables and overhead service utilities in the center of the space. Designers will allow for maximum flexibility in arrangement. This encourages ease of conversion from one space to another.



C.11 Program development will define a departmental or integrated approach to classroom communities, and support possible future change and flexibility.

Guideline

The traditional arrangement of instructional areas by Math, English, Social Studies, and Science departments is being modified in 21st Century Schools to reflect the current model of integrated curriculum delivery, thematic instruction, and problem-based learning.

It is critical to provide academic spaces that fully support the anticipated delivery method and are arranged to provide efficient delivery of instruction by integration in the instructional teams. With this as a basis of design, it may be more realistic to provide distributed lab spaces within learning community and/or by floor.

This is a critical discussion that must occur at the outset of Programming and result in a consensus decision, since it is such a departure from tradition.



C.12 Program development will accommodate and define need for HUB, Maker and Collaboration spaces, flexibility will guide final approach and configuration.

Guideline

Today's teaching laboratory acts as a flexible framework, holding dynamic student work groups, research zones and support equipment in unlimited arrangements. As such, new design strategies must be put in place to address the needs of HUB, Maker Spaces and other Collaboration zones.

- There will be an intentional effort to design active, team-based inquiry spaces with all the tools and technology necessary to enable any teaching and learning task easily. The integration of furniture, technology and work tools support a variety of teaching methods and learning preferences. This set up helps to keep students more engaged and helps instructors conduct whole-class discussions
- Integration of spaces with virtual reality and computer simulation technologies require more flexible space to serve these rapidly growing fields. Spaces must respond by becoming more flexible, changeable, and attuned to the senses. Some of these spaces will need extended hours for evening and weekend activities. Accompanying storage areas must be planned for with the variety of materials need to support these spaces.



D.01 Design and functional concepts should help to foster student interaction, breakout space, building circulation and support activity that will enhance collaboration.

Guideline

These new facilities will be active academic centers, yet it will also be about educational choice. The atmosphere will be fluid with the entire environment working as a learning center. Large and small spaces will support the various enrollment format and learning styles. Active and passive equipment will be available for group work. Transparency into some of the curricular spaces will encourage incoming students to explore wider options.

Intimate gathering spots will continue dialogue from the Classroom to the Corridor and from Department to Department. The design team will encourage spaces that illustrate how learning spills out into the cafés, hallways and common area; creating in-depth peer and mentor relationships.



D.02 Flexibility in classroom furnishings will foster collaboration, accommodate flexibility in sizing of student groups, and support change in educational delivery.

Imperative

The design team will suggest multiple arrangements with the various learning centers.

- Flexibility of space is critical for outcome of different learning styles. Student movement is key and furniture/equipment on casters is needed. For opportunity to set up rooms in different new more innovative furniture is imperative.
- Learning Centers for 10-25 individuals. These smaller environments will be furnished and equipped to allow for team table groupings. Flexible tables, ergonomic seating, ample whiteboards, and high use of interactive technology will allow for the needed mobility of the environment. The face to face opportunities to work together encourage engagement with all users.
- With density an on-going issue, the larger Active Learning Centers for classes of 35-40 students can quickly switch from a lecture style arrangement to a team mode by reconfiguring the planned inventory of furniture. Students retain information at a higher level when actively engaged in their own learning (and in physical environment that allows choice). A versatile instructor station supports lecture, focused work and collaboration with students. Chairs and tables on casters can be rearranged quickly. Many suggested configurations can be posted as key plans within the rooms to assist with facilitating these changes. Co-creation with multiple sizes of whiteboards supports kinesthetic learning.
- Touchdown Workstations that are unassigned and available for students to use before, between and after classes.
- Informality of certain "Hub" and "break-out" spaces is beneficial for students' ongoing need for feedback. It encourages more casual mentoring relationships.
- Make Casual Spaces Count. Create large communal spaces with continual accessibility. Choice in different types of spaces for students to work so that they can be intentional about what space works best for the situation. (ie. Casual, comfortable chairs/lounge furniture for discussion or reflection; active spaces with whiteboards/stools for brainstorming and sharing ideas.
- Infrastructure for technology and power is paramount and integrated into all spaces.



D.03 Transparency and operable walls will support controlled socializing beyond the walls of the traditional classroom.

Imperative

Wherever practical, the instructional spaces will have exterior and interior windows to allow natural light and connecting views to adjacent spaces. Depending on where they are located, operable walls will be used to vary classroom sizes and to optimize the acoustic and visual characteristics of the learning environment. When opened, instructional activities can spread out and connect with adjacent teaching spaces.

Increased transparency also enables teachers and staff to visually monitor adjacent spaces. These spaces can be utilized by students for individual or collaborative work, while still within range of their home base. Also, by design, incidents of bullying and disruptive behavior are minimized and the levels of safety and comfort necessary for effective learning are increased. The overall benefit of enhanced transparency is that the learning environment of the classroom can be expanded beyond the traditional classroom setting and can increase the social connectivity of learning groups.



D.04 The deliberate and careful design of exterior/ outdoor space will foster socialization and ongoing education outside of the building.

Guideline

Learning occurs everywhere. Schools can further expand the teaching and learning environment by leveraging exterior spaces like courtyards, terraces, patios, and rooftops. The usability and flexibility of the exterior spaces is directly proportional to the visual and physical connection to interior spaces. Exterior spaces can connect to teaching spaces with the same strategies employed with windows and operable walls on the interior that were described in the previous Design Guideline (D 03).

The complete school design should create exterior rooms and spaces that allow learning and socialization to move outside the traditional teaching areas. Accommodations should provide the same level of comfort and security as their interior counterparts.



D.05 Building design will promote safe socializing through transparency, limited blind corners, simplicity of student circulation and close proximity of administration.

Guideline

The school design will have a clear circulation system that alleviates congestion and bottlenecks. A hierarchy of main avenues and secondary paths will be designed that are effective at moving students through the spaces, and also connecting them together with vibrant social places. Increased transparency and the ability to see across, and through spaces to ones that beyond is a design strategy that can enhance safety and the quality of the student community. For additional information on this topic, reference Design Guideline B 02.



E.01 Program development will explore open vs closed campus.

Imperative

The issues surrounding open vs. closed campus are diverse and far-reaching. The number of students being served in the cafeteria space affects cafeteria size and kitchen size, and overall building size. These spaces are generally difficult and expensive to enlarge if an open campus approach is changed to a closed campus in the future.

The access to off-campus areas affects the safety and security of the overall campus, and may impact the parking needs, traffic flow, exterior lighting design, and pedestrian routes of movement.

It is imperative that this discussion occurs in the beginning of the Programming Phase and is finalized when Site Planning has begun.



E.02 Program development will define extent of community use and supporting space. Flexibility of community space will offer ease of future change.

Guideline

The differential in the communities being served and the projected enrollments require a high-level discussion during the Programming Phase regarding how each community will use the building and its facilities.

Supporting space must be evaluated for appropriate types of spaces for the needs of the community, as well as hours of access for use by the community.

This discussion and evaluation must occur early in the Programming Phase and identify where there are equals vs. where there is customization.

Flexible spaces should be provided where possible to adapt to future changes if potential change can be discussed and identified at the early design phase.

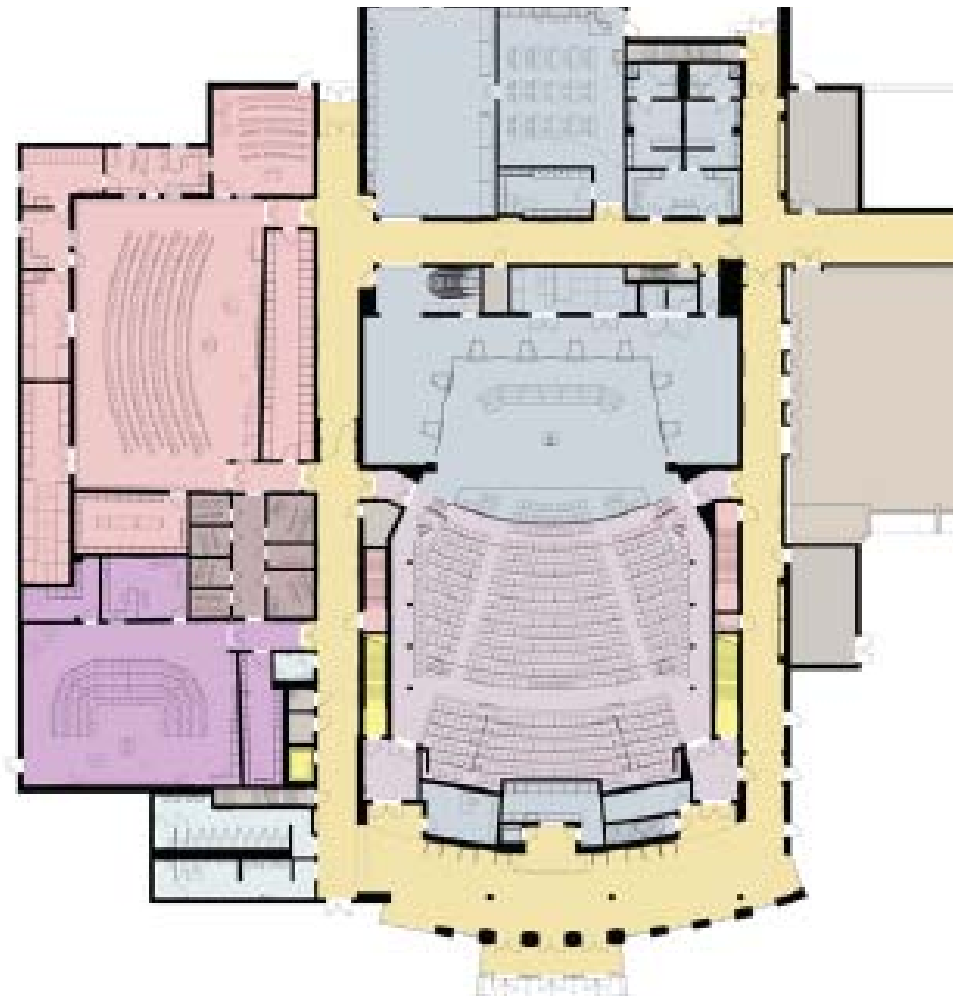


E.03 Seating capacity of large gathering spaces such as gymnasiums, theatre, library, aquatic center, and dining hall will be determined by program and defined for current and anticipated future demand.

Guideline

Large gathering spaces will be designed to accommodate multiple and overlapping functions as much as possible. Each of these spaces will be studied individually to maximize the variety of uses while providing durable and maintenance-friendly options.

Portable seating arrangements will be provided where they can increase the flexibility of a space. Spectator and Patron seating for all gathering spaces will be designed to support the day-to-day educational and instructional goals of the school first, and then study options that allow for special events and expanded community use.



E.04 Wrap around services such as social work, health services, food services and tutoring will be defined and incorporated into a functional and flexible use pattern.

Guideline

These new buildings will be planned and designed to support the community and families that they support. During the programming phase, much discussion will be spent on what auxiliary services will be located within each building. A few of these may include medical, dental, mental health clinic; provisions for adult education and language services; before and after school meals; accessibility to physical education and performance venues.



E.05 Unique community needs are to be considered within the confines of “sister schools design”.

Guideline

The designs must deliver equal academic opportunities at each location and ensure that quality educational environments are developed at both sites. However, there is also a very special and unique environmental context and neighborhood fabric within each community. Each facility must sit comfortably within its context and its natural environment.

The designs should relate to the community and play to the strengths that each affords while maintaining the sister school approach. The prototype concept should be customized to meet the unique needs of each site, each community, and each enrollment capacity. These considerations need to be identified at the outset of the Programming Phase and fully developed in the Scope Documents phase so as not to become later add-ons. There is a design opportunity to express those unique characteristics in color, texture, views, massing and orientation.



E.06 Aquatic facilities will be evaluated for compatibility with intended use and future needs.

Guideline

The length and size of the competition pool will be aligned with others in the school district. As with design guideline E03, the capacity of spectator seating will be reviewed with the district as the space program is being developed. Auxiliary uses of the pool such as diving, team water sports, and recreational swimming will be investigated with the overall goal of maximizing the usage of the natatorium for educational purposes.

The location of the natatorium on the school site, and how it relates to adjacent athletic spaces will be explored in relation to how the district intends to use the facility. Similarly, pool depth, support spaces, and spectator seating arrangements will be aligned with current and future goals.



E.07 Food service must offer and support flexible schedule, extended day patterns and year round possibilities.

Imperative

The need for food service beyond the historical school day requires very careful analysis in the Programming and Conceptual Design Phase. What are the hours we anticipate operation? What types of food do we need to provide and how many users do we need to serve? Are we really developing something similar to a university-level Student Activities Center?

Increased operating hours affect energy usage and utility costs. We need to evaluate mechanical system zoning and control strategies

The final area that must be addressed is safe and secure access. How do we control what may be many access points and still provide a safe and secure environment?

We will need to bring outside consultation into this discussion to understand the implications of types of storage, types of menu/serving options, and efficient ways to operate this important part of the program.

